

TILAK RAJ

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Present Address.

Faridabad
Haryana

OBJECTIVE

A challenging career that will enable me to exhibit my professional competency to the zenith and will enable me to expose my talent to the max, to reach the heights of success.

PROFESSIONAL SUMMARY:

- ⇒ Specialized in Mechanical Engineering disciplined with **8.5 Years' Experience** in **Combustion development & Engine Calibration**. Strong desire to contribute in a Calibration, design or technical support function to utilizing my experience and education.
 - ⇒ Proficient in Engine **Combustion Optimization & Data analysis**.
 - ⇒ High Proficiency over MS Office and Engine testing & calibration Software such as **PUMA 1.5.1,1.5.2, EDACS, INCA, Kistler KI-Box, FEV TCM (testing software) Fevies, Unipilot,**
 - ⇒ **INCA for cycle simulation, CAMEO for DOE formation & Model base calibration**
 - ⇒ iCAT Type Approval testing at iCAT to meet Bharat BT3A, BT-4 Emission norms of Tractor engines.
 - ⇒ Excellent analytical skill and ability to work well in a team environment.
 - ⇒ Willing to travel and relocate.
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WORK EXPERIENCE:



Present Origination : **SONALIKA INTERNATIONAL (Noida)**
Designation : **Deputy Manager (R&D Engine Testing & Development)**
Duration : **Sep. 2018 to till date**
Product : **AGRI MACHINERY**

RESPONSIBILITY:

- The above experience is in the area of Diesel engine calibration & combustion development for Tractor, off road vehicle application, analysis & Evaluation of test result.
- **Air Path** calibration.
- **Fuel Path** calibration.
- **Drivability**.
- **Optimizing Injection** control Parameter (Rail pressure, Injection quantity, Injection timing)
- **Emission optimization** through DOC,
- **Engine out optimization**.
- **Working on pilot strategies** for noise & smoke optimization.
- **Higher & Lower ET optimization**.
- **FIE Consistency** for value engineering.
- **Type of Approval test** to meet Bharat BT3A Emission norms for Tractor engines.
- **Data generation, compilation and Report preparation and review** with team.
- **DVP Preparation & Report preparation**.

PROJECT UNDERTAKEN:

- Successfully completed BT-IV 60hp, 65hp, 70hp, 75hp Engine development.
- Currently working on BT-5 60hp Engine development.



Past Organization : FEV TECHNICAL CENTER (PUNE)
Designation : Project Engineer (R&D Engine Testing & Development)
Duration : February 2016 to September 2018
Product : Powertrain Calibration

RESPONSIBILITY:

- The above experience is in the area of **Development & Testing of Engine** for Tractor, Genset, Construction equipment for vehicle application, commercial vehicle & heavy duty vehicle, analysis & Evaluation of test result.
- Conducting various tests on engine, this includes **Combustion Development, Mechanical Development and Emission testing** as per **Bharat stage** Norms for India as well as Other Countries.
- Working on Diesel CRS engine.
- Injector, Turbo, ETV & ITV.
- **Emission optimization** (Nox soot trade off strategy planning).
- **Working on pilot strategies** for noise & smoke optimization.
- **Optimizing Injection** control Parameter (Rail pressure, Injection quantity, Injection timing).
- Working on Different test cycles i.e. **WHSC, WHTC, ETC, ESC, ELR, ISO-8178 (8 & 5 MODE)** and creating load cycles.
- Well know operational knowledge about Engine calibration software like, **INCA, CUTY LAUNCHER**.
- Looking after other activities like, **FIP calibration on FIP bench**.
- Working, functionality & basis troubleshooting of Horiba analyzer, **SPC 478, PSS-20, Micro soot sensor, FTIR, PN counter**.
- Data generation, Compilation and Reporting to client with data, conclusions and suggestions.
- Maintaining ISO 9001:2008/NABL records
- **Monitor monthly maintenance** & 5s activities in engine test bench and update status to Management.
- Take care & basic Maintenance of Testing lab & equipment's.

PROJECT UNDERTAKEN:

- **Successfully completed BS-VI Engine development**
- Successfully completed diesel engine 5.9 Ltr. for after treatment system high power (135kW)
- Successfully completed engine 1.5 Ltr. development for high power (78kW).
- Working on engine calibration & emission development for commercial & tractor for different manufacture like, Cummins, John Deere, JCB, Mahindra,



Past Organization : ESCORTS AMG LTD.
Designation : Diploma trainee Engineer (R&D Engine Design & testing)
Duration : September 2014 to February 2016
Product : AGRI MACHINERY

RESPONSIBILITY:

- Conducting various tests on engine, this includes **Mechanical Development, Combustion Development**, and **Emission testing** as per **Bharat stage Norms** for India as well as Other Countries.
- Conducting different test such as **Endurance test and New proto validation test, Cooling Test, Blow by measurement, EOC Testing, Airflow measurement through Radiator, recording NOX with AMA i-60 Analyzer & PM , Full Throttle Performance (FTP),Part Throttle Performance(PTP), Running In, Engine torque Mapping, Governing, Emission, Indi set Test ,Scuff Test, Cold chamber trials etc.**
- Worked on Different test cycles i.e. **ISO-8178 (8 & 5 MODE)** and creating load cycles as per legislation.
- Data generation, Compilation and Reporting to designers with data, conclusions and Suggestions.
- Experience on **Natural aspirated engines** (15 to 60 Hp Engines), **Turbocharged engines** (45 to 65 Hp Engines), Turbocharged Intercooler with EGR engines (65 to 75 Hp Engines) **rotary as well as inline FIP** for tractor Preparation.
- Testing for **Benchmarking Engine & domestic tractors** like John Deere, Ford, M&M, Eicher, Kirloskar, Taffe, etc.
- **Calibration check & Preventive maintenance** of testing equipment's like Dynamometer (Descaling), Fuel Consumption meter(Calibration), Blow-by unit, Water Conditioning unit,Test Bed Alignment (Engine alignment with respect to Dynamometer), Temperature & Pressure sensors etc.
- Good hand at testing of **FIPs at Mico (Bosch) test bench & Bosch Tube** to take comparative study of fuel delivery at Engine test bed & the bench.
- **Worked in Deep combustion** analysis inside the combustion chamber like cylinder pressure, rate of heat release, needle lift, dynamics start of injection & end of injection, start of combustion & duration of combustion, peak firing pressure with respect to the crank angle on Kistler Ki box Cockpit.
- **Weekly shift allocation & daily manpower** handling.
- Monitor monthly maintenance & 5s activities in engine test bench and update status to Management

PROJECT UNDERTAKEN:

- Successfully completed optimization & development of 4 cylinders E4.368NA Engine for 60 hp BT3A.
 - Successfully completed optimization & development 3 cylinder E3.249NA (45HP) EURO45 and 3 cylinder E3.276 (50HP) engine tractor application duration.
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TRAININGS:

- I have attended the maintenance training in Escorts LTD.
 - A Completion of “**PUMA OPEN 1.5.1, 1.5.2**” one week short term training organized by AVL at Escorts Ltd.
 - AVL SPC 478 operating training
 - I have attended 4 weak industrial training during diploma in **Marketing Times Maruti Service Centre.**
 - 5S and Kaizen training.
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KEYSKILLS:

- Good Knowledge of testing software's like **AVL Puma open 1.5.1, 1.5.2, EDACS AND Dynamate 8000, FEV TCM**
- Worked and calibration on Latest Emission system i.e. **AVL AMA-i60, Horiba MEXA. AVL SPC 472 & 478, PSS-20 for PM, Micro soot sensor, PN counter, FTIR.**
- Combustion Analysis Software **Kistler KI-Box, AVL Indicom, INCA, FEV Fevies.**
- MS-office, MS-Excel, power point, Internet Explorer. **Bozys+ for cycle simulation.**

PROFESSIONAL & ACADEMIC QUALIFICATION:-

Exam Passed	Board	%age
B. Tech. In Mechanical Engineering	THE INSTITUTION OF ENGINEERS KOLKATA	Pursuing
Diploma In Mechanical Engineering	HARYANA STATE BOARD OF TECHNICAL EDUCATION	74
12th	HARYANA BOARD OF SCHOOL EDUCATION	73.4
10th	HARYANA BOARD OF SCHOOL EDUCATION	70

PERSONAL DOSSIER:-

- Father's name : Sh. Charan Das
- Date of Birth : 25 June 1994
- Language Known : English, Hindi,
- Alternate Mobile No. : +91 9711718094, +91 8329765920

DECLARATION:-

I hereby confirm that the above information in this C.V. is true & correct to the best of my Knowledge & belief.

Place:

DATE:

(TILAK RAJ)
